

Overflow error ...

[cbblanke](#) 38 posts since

Apr 18, 2008

This is more of a Fortran question than a question about LIS, but I am hoping somebody knows something about this. I don't understand it at all. I am getting an overflow error in my LSM (not part of the LIS distribution) when I try to take the min() of two real variables. If I rewrite the code to do the same thing in a different way, I get the error when I just set one variable equal to another (both reals), or try to do a comparison like "if (a.lt.b) then". What could possibly cause this behavior? It runs through this section of the code thousands of times but it dies on day 7, hour 11, tile 251 every time.

This is the code fragment where it dies. All the variables are real, except ilay and nlay, which are integers.

```
darcydt = 2.*delt
temp_dt = 2.*delt
do ilay = 1,nlay-1 !do 56
if (sheels%difcof(ilay) .gt. 0) then
diffterm = sheels%dz(ilay)**2 / (2.0*sheets%difcof(ilay))
else
diffterm = 0.
end if
if (sheels%draincof(ilay) .gt. 0) then
drainterm = sheets%dz(ilay) / sheets%draincof(ilay)
else
drainterm = 0.
end if
write(*,*)darcydt,diffterm,drainterm
temp_dt = min(diffterm,drainterm) !It dies right here
end do
```

This is sample output with the error:

```
7200.000 3.0411966E+07 6.5823113E+10
7200.000 3.0402494E+07 6.5785352E+10
7200.000 3.0392248E+07 6.5744241E+10
7200.000 3.0386762E+07 6.5722331E+10
7200.000 2.1660269E+10 1.7544675E+12
forrtl: error (72): floating overflow
Image PC Routine Line Source
LIS-0(MPI:18942@b 00000000012F3960 sheets_main_ 722 sheets_main.F90
LIS-0(MPI:18942@b 000000000041BED8 Unknown Unknown Unknown
```

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```
LIS-0(MPI:18942@b 0000000000BB7A12 lsm_module_mp_lis 392 lsm_module.F90
LIS-0(MPI:18942@b 0000000001226AAB retrospective_run 185 retrospective_runMod.F90
LIS-0(MPI:18942@b 000000000041D391 Unknown Unknown Unknown
LIS-0(MPI:18942@b 0000000000B94EA3 MAIN__ 71 lisdrv.F90
LIS-0(MPI:18942@b 00000000004058F2 Unknown Unknown Unknown
libc.so.6 0000002A961B8AAA Unknown Unknown Unknown
LIS-0(MPI:18942@b 000000000040582A Unknown Unknown Unknown
```

Thanks,

Clay Tags: lis, fortran, floating, overflow, error

[sujay](#) 118 posts since

Sep 20, 2007 [1. Re: Overflow error](#) Jun 30, 2008 1:43 PM

clay,

This could be due to several issues. Usually this happens when the precision of the variable is insufficient to contain the value of the calculation. You could try redefining some of the variables to see if this is the problem.

-Sujay